

# PATENT ABSTRACTS OF JAPAN

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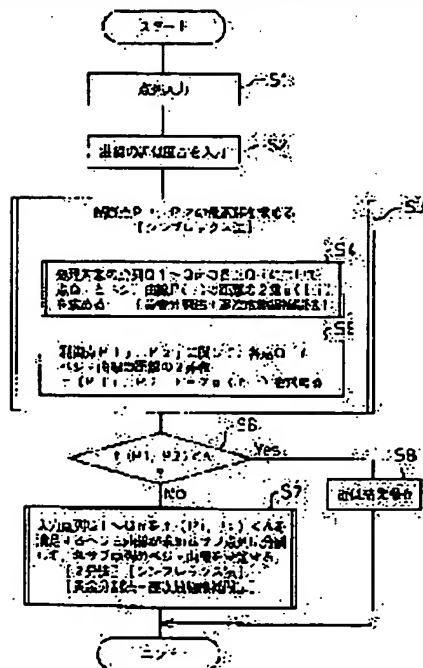
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## (54) METHOD FOR APPROXIMATING POINT SEQUENCE



(57)Abstract:

PURPOSE: To obtain a parametric function approximating a locus of a point sequence without deciding a position of a control point in advance.

CONSTITUTION: Optimum solutions P1, P2 of control points of a ternary Bezier curve are obtained by the simplex method being a 1st solution of the nonlinear programming (step S3). Square sums  $f(P1j, P2j)$  of a shortest distance from each point of a point series to the Bezier curve using objects P1j, P2j of optimum solutions of control points as an objective function of the simplex method (steps S4, S5). The (golden section + successive parabolic interpolation method) being other solution of the nonlinear programming is used in the steps S4, S5.

Or when all of the input point series cannot be approximated by one Bezier curve, the point sequence is being divided into sub point series by the bisection method being a 3rd solution of the nonlinear programming and each sub point sequence is approximated by a Bezier curve (step S7). The sub point

sequence is referred to as a longest point sequence approximated by a given approximation degree.